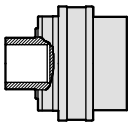
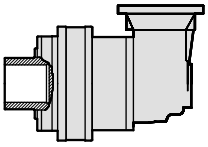
Size 090 - 28000 Nm

ST-090 Technical data



Stages	Ratio	$T_{2N(1.2M)}$ (1)	$T_{2N(6M)}$ (1)	T_{2Peak} (2)	n_{1N} (3)	n_{1Max} (4)	P_t (5)	η
	i	(Nm)	(Nm)	(Nm)	(rpm)	(rpm)	(kW)	(%)
1	4.00	28060	21140	56120	1000	1500	50	98
	5.20	23780	17910	47560	1000	1500	50	98
	6.25	18350	13820	36700	1000	1500	50	98
2	14.7	28060	21140	56120	1500	2800	30	96
	19.1	23780	17910	47560	1500	2800	30	96
	23.0	23780	17910	47560	1500	2800	30	96
	26.0	23780	17910	47560	1500	2800	30	96
	30.2	23780	17910	47560	1500	2800	30	96
	36.2	18350	13820	36700	1500	2800	30	96
	43.7	18350	13820	36700	1500	2800	30	96
3	55.4	28060	21140	56120	1500	2800	20	94
	60.5	28060	21140	56120	1500	2800	20	94
	72.0	23780	17910	47560	1500	2800	20	94
	88.0	28060	21140	56120	1500	2800	20	94
	95.0	23780	17910	47560	1500	2800	20	94
	107.3	23780	17910	47560	1500	2800	20	94
	114.4	23780	17910	47560	1500	2800	20	94
	124.4	23780	17910	47560	1500	2800	20	94
	134.3	23780	17910	47560	1500	2800	20	94
	156.0	23780	17910	47560	1500	2800	20	94
	167.0	23780	17910	47560	1500	2800	20	94
	188.5	23780	17910	47560	1500	2800	20	94
	218.6	23780	17910	47560	1500	2800	20	94
	226.5	18350	13820	36700	1500	2800	20	94
	262.8	18350	13820	36700	1500	2800	20	94
	317.2	18350	13820	36700	1500	2800	20	94
4	338.8	28060	21140	56120	1500	2800	15	92
	374.0	28060	21140	56120	1500	2800	15	92
	408.4	28060	21140	56120	1500	2800	15	92
	424.3	28060	21140	56120	1500	2800	15	92
	493.2	28060	21140	56120	1500	2800	15	92
	511.5	28060	21140	56120	1500	2800	15	92
	594.0	28060	21140	56120	1500	2800	15	92
	656.7	28060	21140	56120	1500	2800	15	92
	752.2	23780	17910	47560	1500	2800	15	92
	762.7	28060	21140	56120	1500	2800	15	92
	803.1	23780	17910	47560	1500	2800	15	92
	873.6	23780	17910	47560	1500	2800	15	92
	935.0	23780	17910	47560	1500	2800	15	92
	1013.3	23780	17910	47560	1500	2800	15	92
	1127.0	23780	17910	47560	1500	2800	15	92
	1272.4	23780	17910	47560	1500	2800	15	92
	1354.5	18350	13820	36700	1500	2800	15	92
	1476.0	23780	17910	47560	1500	2800	15	92
	1529.3	18350	13820	36700	1500	2800	15	92
	1774.0	18350	13820	36700	1500	2800	15	92

SX-090 Technical data



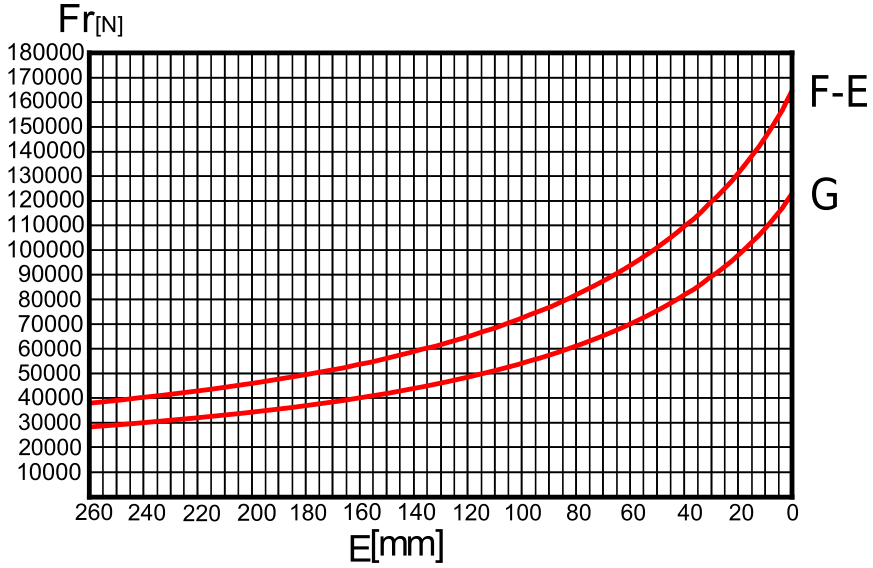
Stages	Ratio	$T_{2N(1.2M)}$ (1)	$T_{2N(6M)}$ (1)	T_{2Peak} (2)	n_{1N} (3)	n_{1Max} (4)	P_t (5)	η
	i	(Nm)	(Nm)	(Nm)	(rpm)	(rpm)	(kW)	(%)
2	14.2	28060	21140	56120	1200	2000	30	96
	18.5	28060	21140	56120	1200	2000	30	96
	22.1	18350	13820	36700	1200	2000	30	96
	24.1	23780	17910	47560	1200	2000	30	96
	28.9	18350	13820	36700	1200	2000	30	96
3	49.3	28060	21140	56120	1500	2800	20	94
	64.1	23780	17910	47560	1500	2800	20	94
	67.8	28060	21140	56120	1500	2800	20	94
	77.4	23780	17910	47560	1500	2800	20	94
	87.4	23780	17910	47560	1500	2800	20	94
	101.3	23780	17910	47560	1500	2800	20	94
	106.5	23780	17910	47560	1500	2800	20	94
	120.2	23780	17910	47560	1500	2800	20	94
	139.5	23780	17910	47560	1500	2800	20	94
	144.5	18350	13820	36700	1500	2800	20	94
	167.7	18350	13820	36700	1500	2800	20	94
	202.3	18350	13820	36700	1500	2800	20	94
4	162.3	28060	21140	56120	1500	2800	15	92
	222.0	28060	21140	56120	1500	2800	15	92
	230.4	23780	17910	47560	1500	2800	15	92
	257.8	28060	21140	56120	1500	2800	15	92
	287.8	23780	17910	47560	1500	2800	15	92
	314.2	23780	17910	47560	1500	2800	15	92
	364.5	23780	17910	47560	1500	2800	15	92
	393.6	23780	17910	47560	1500	2800	15	92
	456.6	23780	17910	47560	1500	2800	15	92
	489.2	23780	17910	47560	1500	2800	15	92
	530.2	23780	17910	47560	1500	2800	15	92
	640.7	23780	17910	47560	1500	2800	15	92
	769.1	18350	13820	36700	1500	2800	15	92
	929.4	18350	13820	36700	1500	2800	15	92

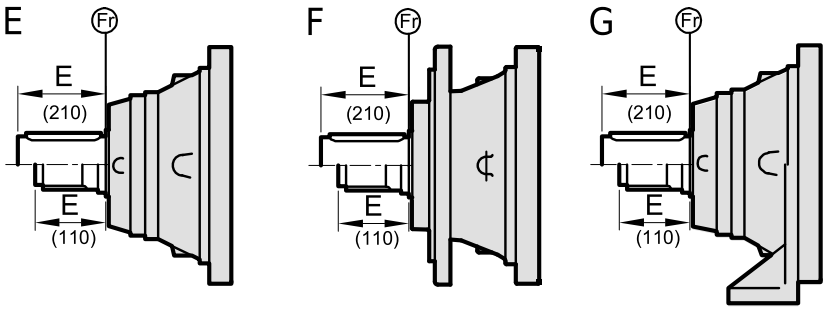
(1) T_{2N} values are calculated at $n_1=n_{1n}$, continuous duty cycle, uniform operation and KA=1 according to ISO 6336. $T_{2N(1.2M)}$ has been calculated for 1200000 of revolutions at the output shaft, and $T_{2N(6M)}$ has been calculated for 6000000 of revolutions at the output shaft. The application factor f_s must be considered for each duty cycle and machine type.
(2) T_{2Peak} is the maximum output torque the gearbox can tolerate during startups, inversions or other peaks. This value should never be used for continuous operation or for intermittent operation with frequent accelerations.
(3) n_{1n} is the rated input speed for continuous operation
(4) n_{1max} is the maximum input speed for intermittent service. For continuous operation at speeds over n1n please inquire.
(5) Pt is the thermal power rating, that is the power in kW that, at 20°C, the gearbox can transmit during continuous operation, at $n_1=n_{1n}$ and lubricated with ISO-VG-220 oil without it exceeding 90°C. It depends on ambient temperature.

Output Shaft Radial Load Capacity

Radial Load Capacity is only given for gearboxes with solid shafts (Smooth Solid Shaft with Key (P) and DIN 5480 Splined Shaft (W)) for a design life of 6 million revolutions of the output shaft ($6 \cdot 10^6$). These values can be adjusted for other number of revolutions of the output shaft applying the Output Bearing Lifetime Factor (f_{obl})

Radial Load capacity depends on gearbox version and application point. Find the value for your machine using this chart.





Output Shaft Axial Load Capacity

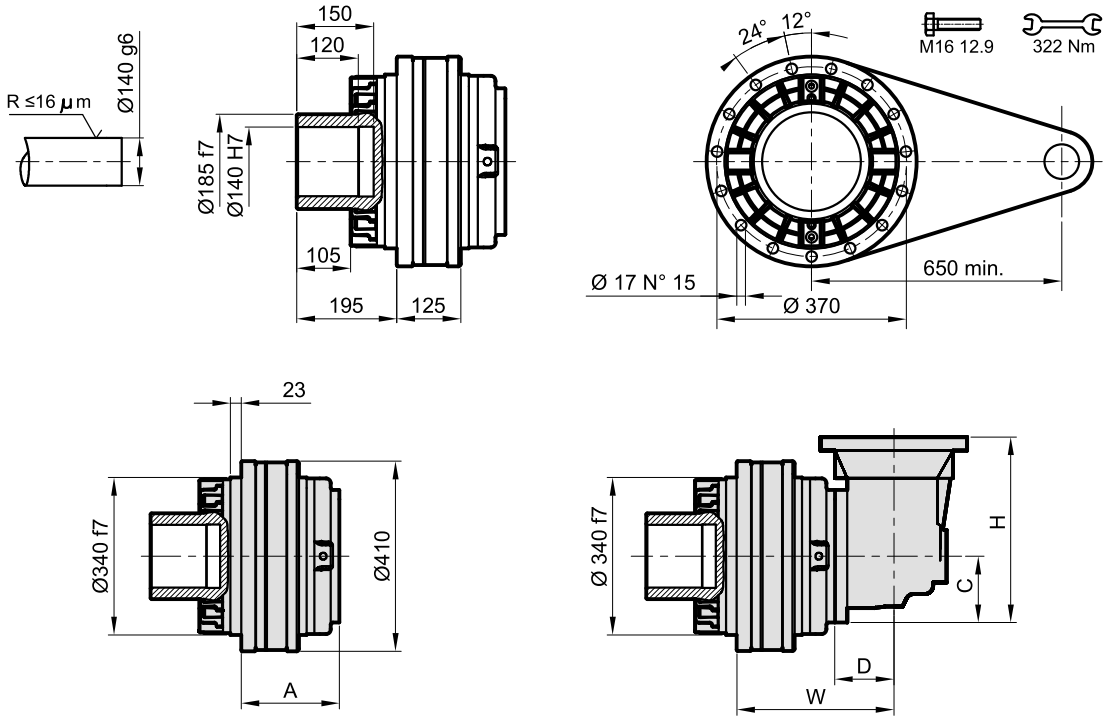
Axial Load Capacity is only given for gearboxes with solid shafts (Smooth Solid Shaft with Key (P) and DIN 5480 Splined Shaft (W)) for a design life of 6 million revolutions of the output shaft ($6 \cdot 10^6$). These values can be adjusted for other number of revolutions of the output shaft applying the Output Bearing Lifetime Factor (f_{obl})

Axial Load Capacity depends on the direction of the load:

	Push	Pull
F_a	95000 N	75000 N

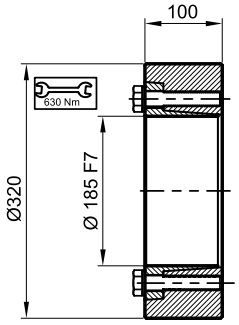
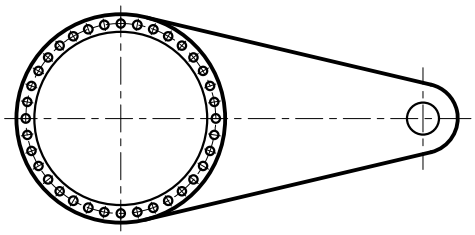
Dimensions

S□-E-090-□□-H140×150

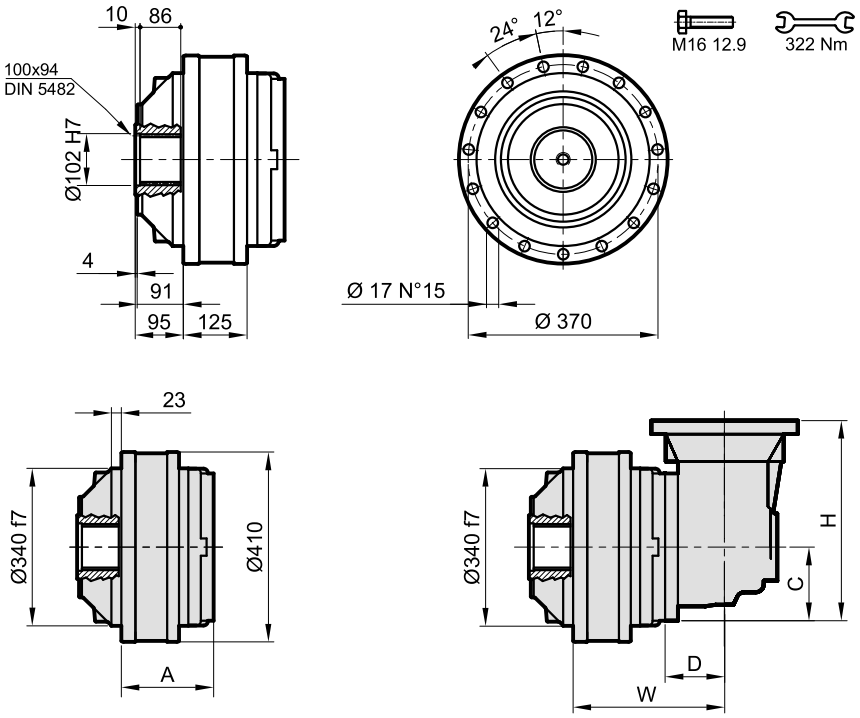


Stages	A	W	D	C	H	ST Mass (1)	SX Mass (1)
1	209	-	-	-	-	171	-
2	302.5	332	225.5	205	569	197	288
3	363	366.5	118.5	140	390	210	247
4	411.5	439	75	92.5	253.5	216	227

(1) Mass in kg for gearboxes without input modules (solid input shaft, motor flange, etc) or accessories. To obtain actual mass, add the mass for your chosen input module, please inquire.

Accessories	
SA-H-185	**SA-T-□-340-370-15×17-□-□**
 Max. Torque: 81 kNm Screw Tightening Torque: 630 Nm	 See the chapter on Torque Arms

S□-E-090-□□-N100×96

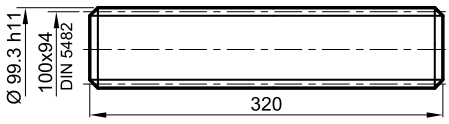


Stages	A	W	D	C	H	ST Mass (1)	SX Mass (1)
1	209	-	-	-	-	209	-
2	302.5	332	225.5	205	569	302.5	267
3	363	366.5	118.5	140	390	363	227
4	411.5	439	75	92.5	253.5	411.5	207

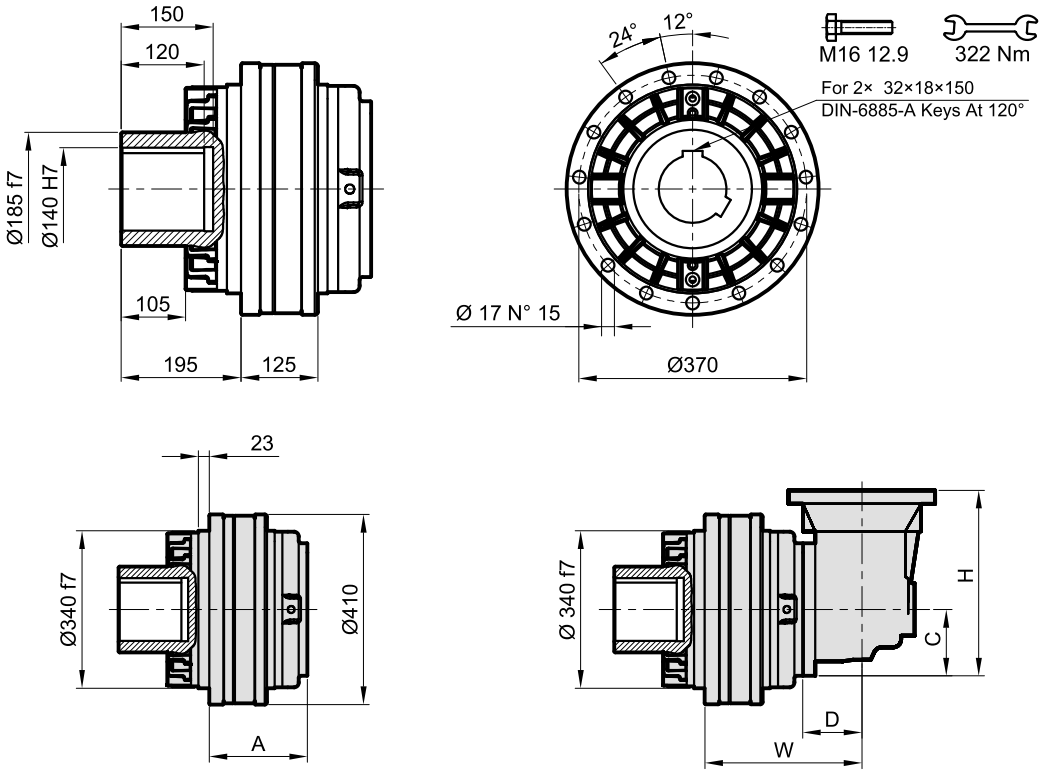
(1) Mass in kg for gearboxes without input modules (solid input shaft, motor flange, etc) or accessories. To obtain actual mass, add the mass for your chosen input module, please inquire.

Accessories

SA-S-100×94



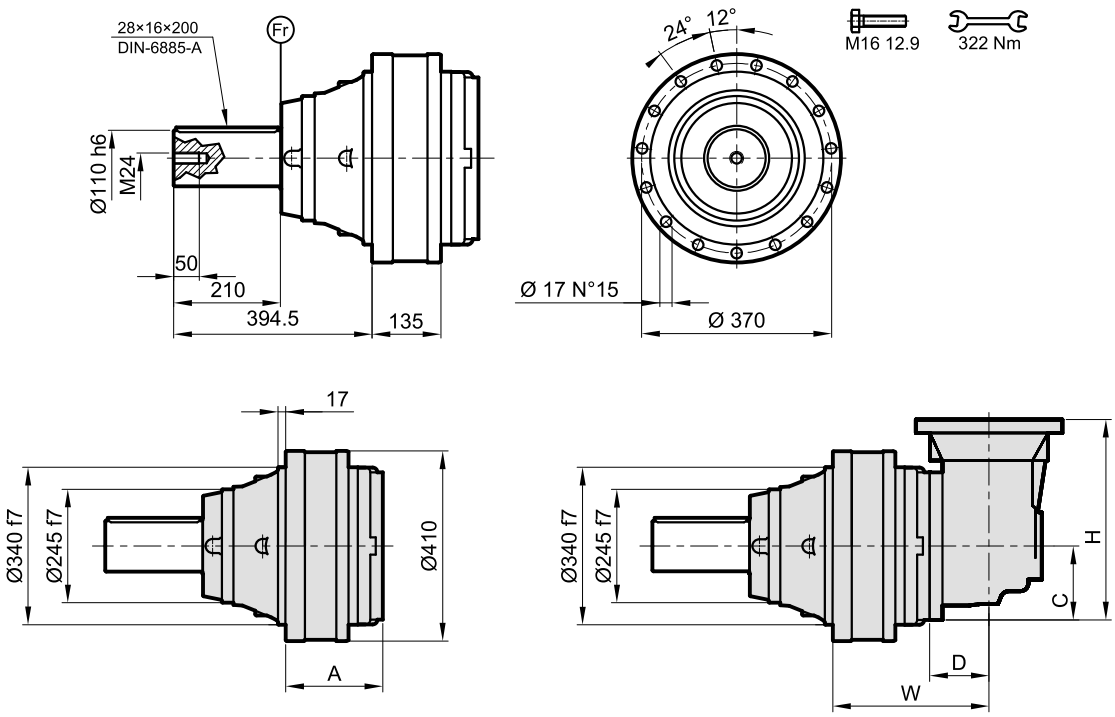
S□-E-090-□□-K140×150



Stages	A	W	D	C	H	ST Mass (1)	SX Mass (1)
1	209	-	-	-	-	175	-
2	302.5	322	225.5	205	569	201	443
3	363	366.5	118.5	140	390	214	252
4	411.5	439	75	92.5	253.5	221	232

(1) Mass in kg for gearboxes without input modules (solid input shaft, motor flange, etc) or accessories. To obtain actual mass, add the mass for your chosen input module, please inquire.

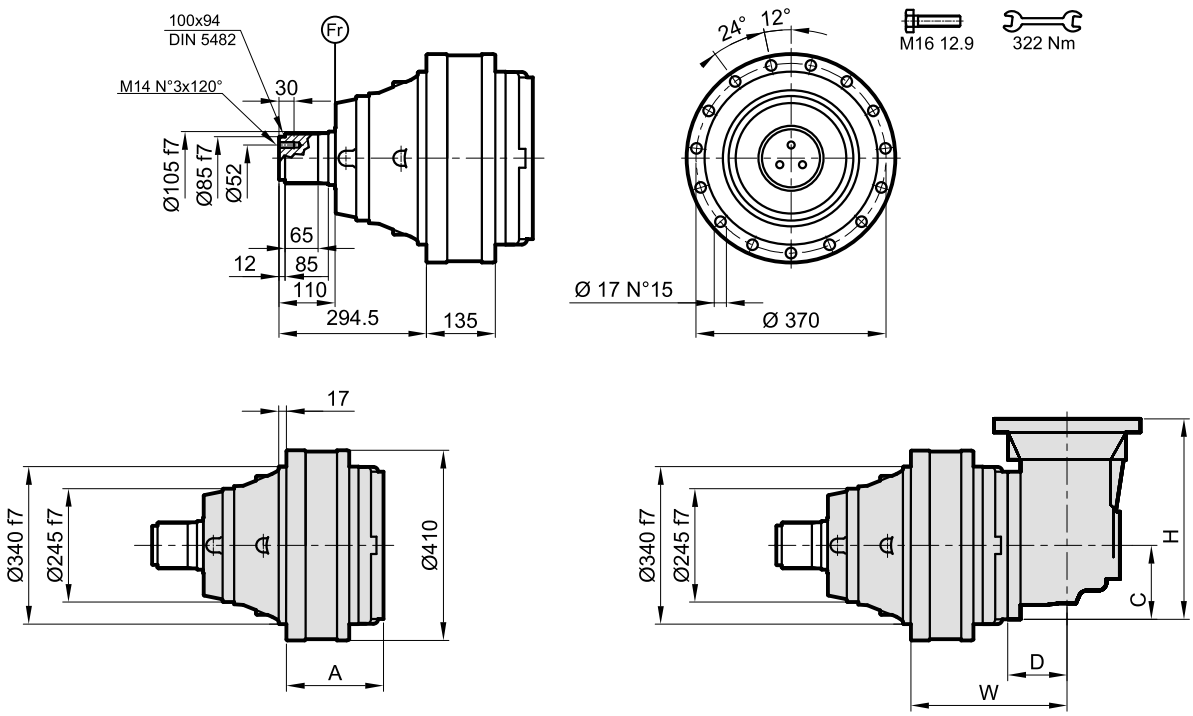
S□-E-090-□□-P110×210



Stages	A	W	D	C	H	ST Mass (1)	SX Mass (1)
1	219	-	-	-	-	200	-
2	312.5	342	225.5	205	569	226	317
3	373	376.5	118.5	140	390	239	276
4	421.5	449	75	92.5	253.5	245	256

(1) Mass in kg for gearboxes without input modules (solid input shaft, motor flange, etc) or accessories. To obtain actual mass, add the mass for your chosen input module, please inquire.

S□-E-090-□□-W100×110

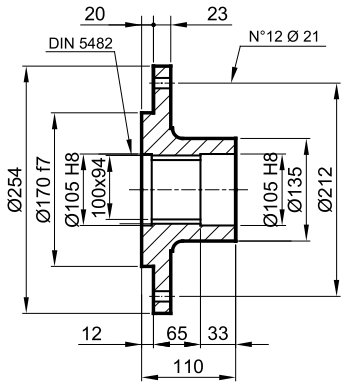


Stages	A	W	D	C	H	ST Mass (1)	SX Mass (1)
1	219	-	-	-	-	200	-
2	312.5	342	225.5	205	569	226	317
3	373	376.5	118.5	140	390	239	276
4	421.5	449	75	92.5	253.5	245	256

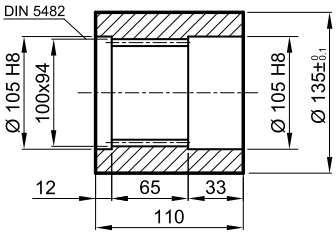
(1) Mass in kg for gearboxes without input modules (solid input shaft, motor flange, etc) or accessories. To obtain actual mass, add the mass for your chosen input module, please inquire.

Accessories

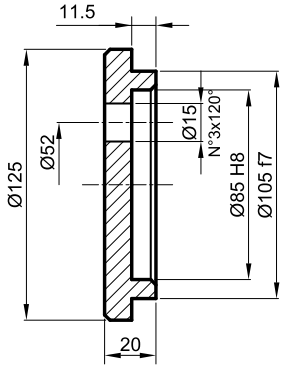
SA-F-100×94-S



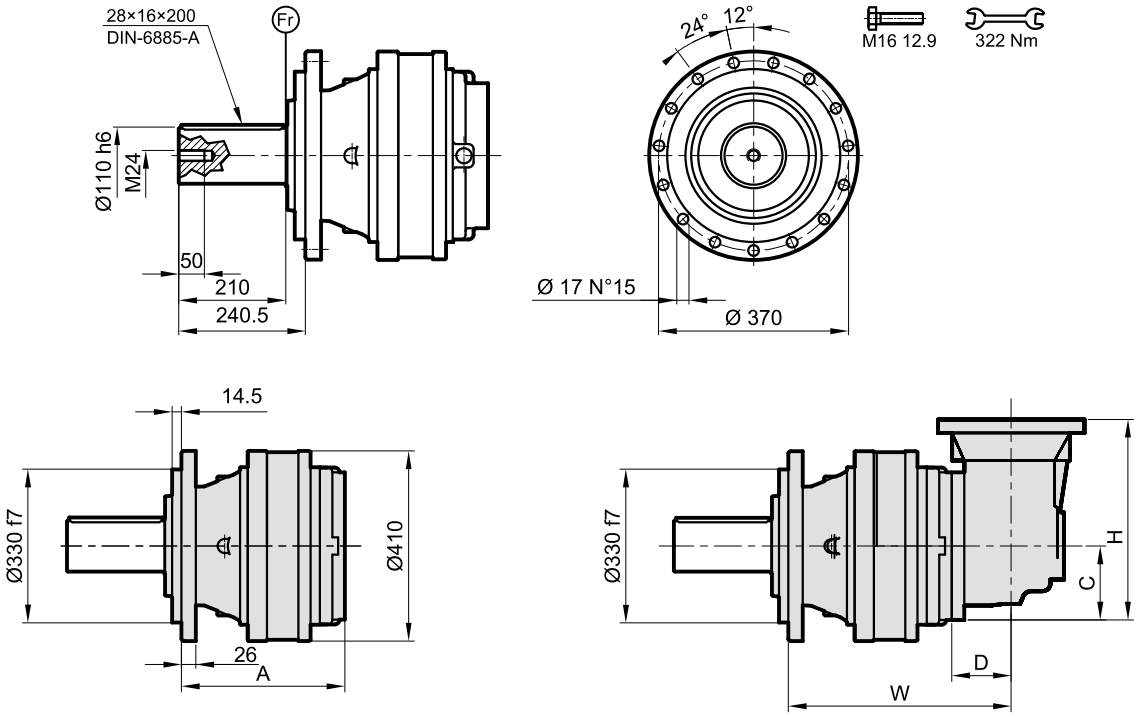
SA-B-100×94-S



SA-P-105



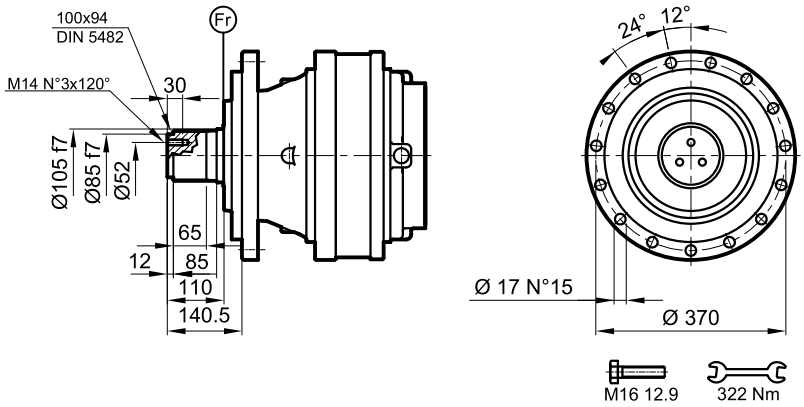
S□-F-090-□□-P110×210

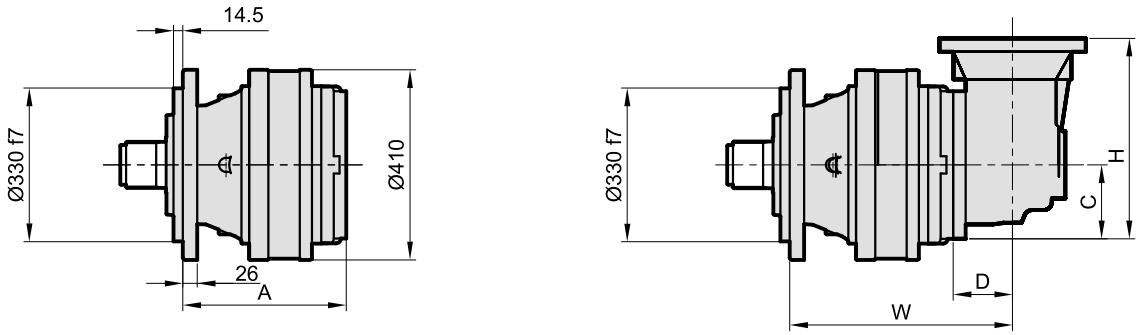


Stages	A	W	D	C	H	ST Mass (1)	SX Mass (1)
1	373	-	-	-	-	220	-
2	466.5	496	225.5	205	569	247	337
3	527	530.5	118.5	140	390	259	297
4	575.5	603	75	92.5	253.5	266	277

(1) Mass in kg for gearboxes without input modules (solid input shaft, motor flange, etc) or accessories. To obtain actual mass, add the mass for your chosen input module, please inquire.

S□-F-090-□□-W100×110





Stages	A	W	D	C	H	ST Mass (1)	SX Mass (1)
1	373	-	-	-	-	220	-
2	466.5	496	225.5	205	569	247	337
3	527	530.5	118.5	140	390	259	297
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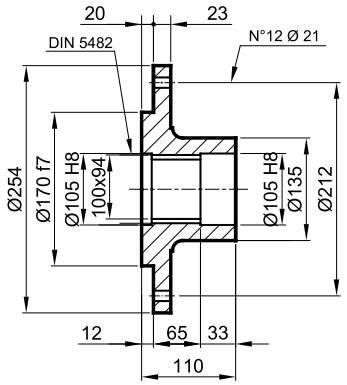
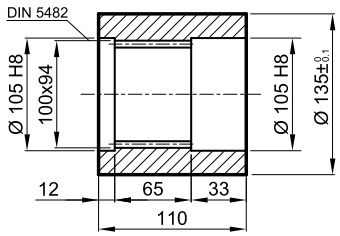
(1) Mass in kg for gearboxes without input modules (solid input shaft, motor flange, etc) or accessories. To obtain actual mass, add the mass for your chosen input module, please inquire.

Accessories

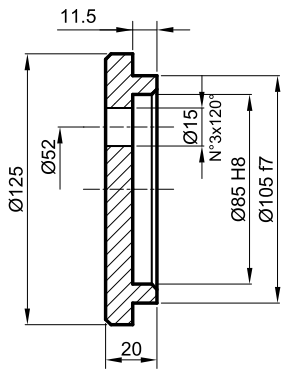
SA-F-100×94-S



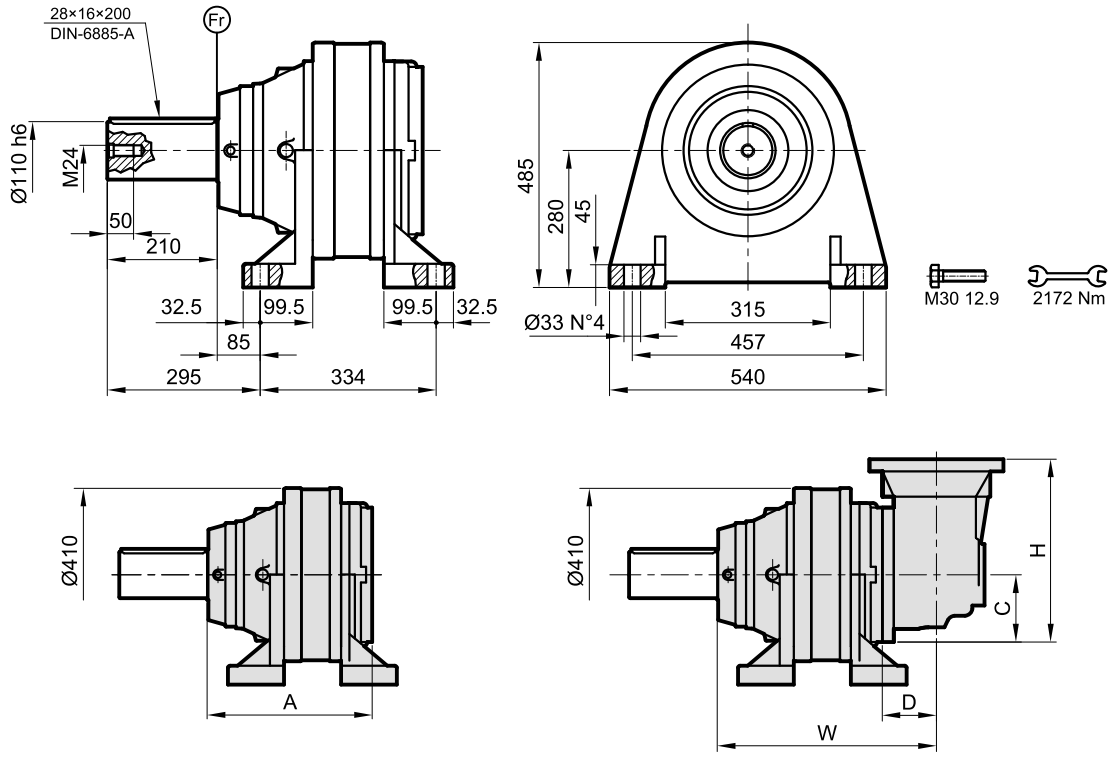
SA-B-100×94-S



SA-P-105



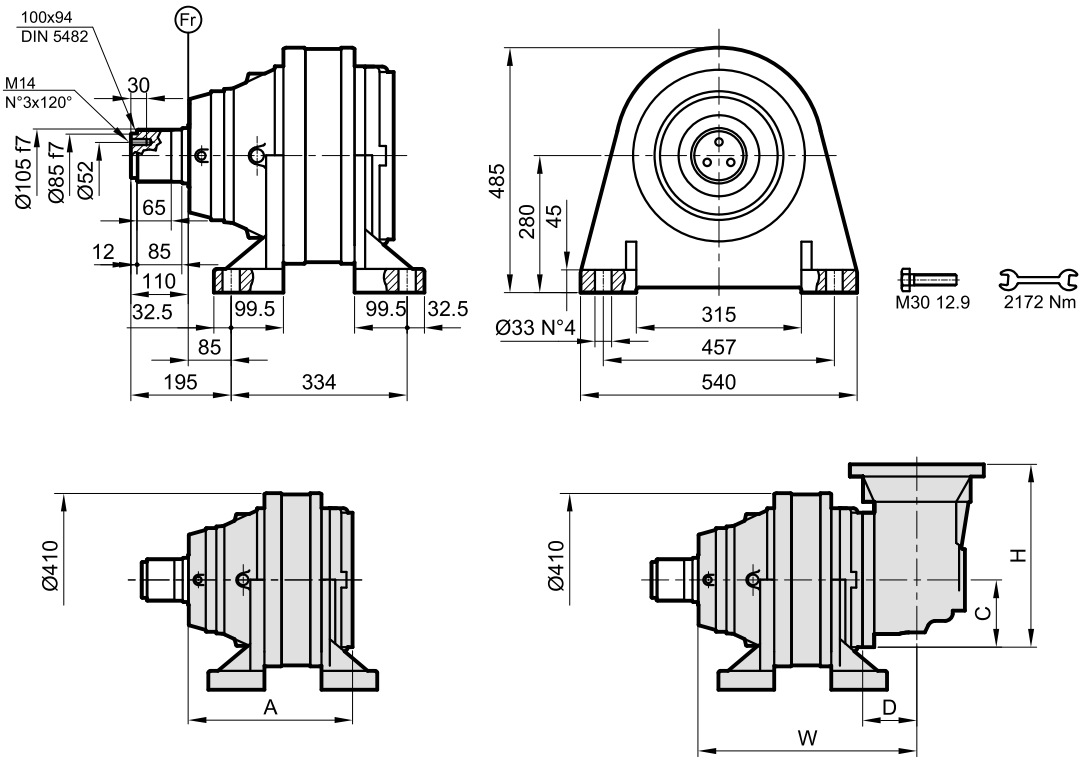
S□-G-090-□□-P110×210



Stages	A	W	D	C	H	ST Mass (1)	SX Mass (1)
1	403.5	-	-	-	-	260	-
2	497	526	225.5	205	569	286	376
3	557.5	561	118.5	140	390	298	336
4	606	633	75	92.5	253.5	305	316

(1) Mass in kg for gearboxes without input modules (solid input shaft, motor flange, etc) or accessories. To obtain actual mass, add the mass for your chosen input module, please inquire.

S□-G-090-□□-W100×110

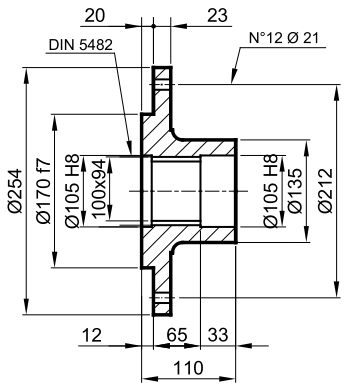


Stages	A	W	D	C	H	ST Mass (1)	SX Mass (1)
1	403.5	-	-	-	-	260	-
2	497	526	225.5	205	569	286	376
3	557.5	561	118.5	140	390	298	336
4	606	633	75	92.5	253.5	305	316

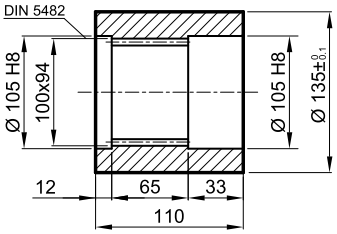
(1) Mass in kg for gearboxes without input modules (solid input shaft, motor flange, etc) or accessories. To obtain actual mass, add the mass for your chosen input module, please inquire.

Accessories

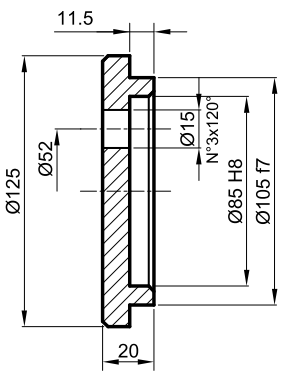
SA-F-100×94-S



SA-B-100×94-S

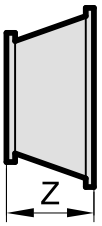


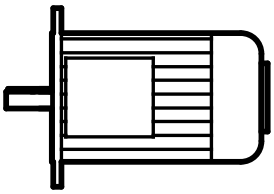
SA-P-105



Inputs

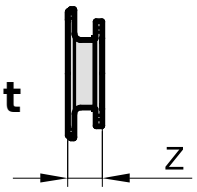
IEC Motor Input

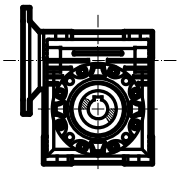




IEC	71	80	90	100	112	132	160	180	200	225	250	280
Stages	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z
1	-	-	-	-	-	-	120.5	120.5	148.5	148.5	183.5	183.5
2	-	-	-	-	-	104	120.5	120.5	148.5	148.5	183.5	183.5
3	35.5	61.5	61.5	71	71	104	120.5	120.5	148.5	148.5	-	-
4	35.5	61.5	61.5	71	71	104	120.5	120.5	-	-	-	-

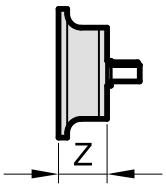
Worm Gearbox Input





Stages	SVS-050 SQS-050	SVS-063 SQS-063	SVS-075 SQS-075	SVS-090 SQS-090	SVS-110 SQS-110
	Z	Z	Z	Z	Z
1	-	-	-	-	-
2	-	-	-	-	95
3	80	80	57	57	57
4	80	80	57	57	57

Solid Shaft Input



Stages	E25×50 E28×50	E35×50 E42×82	E48×82.5 E65×105	E70×120 E80×130	E90×140 E100×140
	Z		Z	Z	Z
1	-		-	185	-
2	-		159	-	-
3	112		-	-	-
4	112		-	-	-